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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,942	12/13/2001	Bradley Paul Barber	37310-000178	1470

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EXAMINER	
ALANKO, ANITA KAREN	

ART UNIT	PAPER NUMBER
1765	

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,942	BARBER ET AL.	
	Examiner	Art Unit	
	Anita K Alanko	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/30/03 amendment*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5 and 7-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5 and 7-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurle et al (US 6,106,735) in view of Sasaki et al (US 2002/0017862 A1).

Kurle discloses a method of packaging electronic devices, comprising the steps of:

- providing a cap wafer 3 having a surface (Fig.1A);
- forming raised ridges 4 on the cap wafer surface; and
- bonding (Fig. 1E), at each raised ridge, said cap wafer surface to a substrate surface 1 containing electronic devices 2.

As to amended claim 1, Kurle does not disclose how the ridges are formed. Sasaki teaches a useful method for forming ridges appropriate for printing glass frit and bonding. Sasaki teaches to lithographically form ridges by using resist 76 (Fig.4(a) – 4(e)). It would have been obvious to one with ordinary skill in the art to lithographically form ridges in the method of Kurle because Sasaki teaches that it is a useful technique for forming ridges.

Further as to amended claim 1 and claim 9, since the modified method of Kurle discloses the same method steps as the instant invention, the same results of higher and thinner frit linewidth dimension are expected.

As to claims 5 and 10, Kurle discloses a linewidth of 500 microns (col.3, line 26), not less than 125 microns. Sasaki teaches that the linewidth may be 40 microns (page 12, paragraph

[0285]), which is less than 125 microns. It would have been obvious to one with ordinary skill in the art to form the linewidth to less than 125 microns in the modified method of Kurle because Sasaki teaches that dimensions on the same order of magnitude are useful for bonding two plates together with glass frit. It is further obvious to one with ordinary skill in the art to apply the smallest dimensions possible, such as those suggested by Sasaki, in order to increase the density of devices on a substrate, thereby increasing yield of the final product.

As to claims 7 and 12, Kurle discloses to form a hermetic seal (col.2, lines 39-41).

Further as to claim 8, Sasaki teaches that a useful method for forming raised ridges includes trenching recesses into the wafer surface (Fig.3(c)); printing material 66 into said recesses and planarizing it such that each filled recess is flush with the wafer surface (Fig.3(d)); and etching away the wafer surface, except for the areas of the original recesses, so that the material forms the raised ridges that are bonded to the substrate surface (Fig.3(e)). It would have been obvious to one with ordinary skill in the art to use the method of Sasaki to form the raised ridges in the method of Kurle because Sasaki teaches that it is a useful technique for forming raised ridges to bond two substrates together with glass frit.

Response to Amendment

The claim objection and rejections under 35 USC 112 and 102 are withdrawn. Claims 1, 5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurle et al (US 6,106,735) in view of Sasaki et al (US 2002/0017862 A1).

Response to Arguments

Applicant's arguments filed September 30, 2003 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the primary reference discloses that ridges are formed, but does not disclose how the ridges are formed. The secondary reference is one teaching of how ridges can be formed. There are probably many ways ridges could be formed, laser ablation, ion milling, sand-blasting, selective deposition, in addition to etching. The benefits of using etching are well known to one with ordinary skill in the art. One could not have lived through the past few decades without being aware of etching, and the benefits that etching can provide to form integrated circuits.

Etching is a technique that has been intensely studied, and the advantages of forming fine line widths are well known to one with ordinary skill in the art. The motivation to combine the two references is that etching is a useful technique as taught by Sasaki, and as known to one with ordinary skill in the art.

In response to applicant's argument that Sasaki is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Sasaki is solving the problem not addressed in Kurle of how to form raised ridges and to bond with glass frit material.

Note also that the claims are not limited to electronic devices based on acoustic waves because the body of the claim does not refer back to the preamble; the preamble is given little patentable weight.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K Alanko whose telephone number is 703-305-7708 (starting December 11, 2003, 571-272-1458). The examiner can normally be reached on Mon,Tues & Fri: 8:30 am-5 pm; Wed&Thurs:10 am-2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 703-305-2667 (571-272-1465 starting December 11, 2003). The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Anita K. Alanko

Anita K Alanko
Primary Examiner
Art Unit 1765